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DONALD R. VAN DER VAART
Secretary

MICHAEL SCOTT
Director

June 20, 2016

Justin Ballard
ATC Associate
2725 East Millbrook Road
Raleigh, NC 27604

Re: Request for Media Sampling and Survey – Task Order 602DP-5 and 6
Cary Dump
313 North Dixon Avenue
Cary, Wake County
ID # NONCD0000602

Dear Mr. Ballard:

Submit a task work plan and cost estimate to perform remedial investigation-contaminant delineation phase activities at the above referenced site. Conduct these activities in accordance with State Contract No. N13003S.

Investigation Goals: Perform soil borings to identify the waste perimeter at the requested locations. Collect analytical waste samples at the specified locations. Propose a drilling method capable of penetrating subsurface obstructions and installing 2-inch permanent monitor wells. Collect groundwater analytical samples at each monitoring well location. Include groundwater analysis for chromium VI. Sample surface water in stream and sediment, include analysis for chromium VI. Install landfill gas probes at the requested locations and perform landfill gas probe screening. A figure with sampling locations is attached. Perform a site survey to record the assessment results and site conditions in preparation for the summary report and plat map.

Scope of Work for Task Order 602DP-5:

- Prepare a work plan in accordance with ATC's approved standard operating procedures dated April 17, 2013, and include a schedule of daily activities.
- Submit an itemized cost estimate that identifies personnel and materials involved.
- Reference the most recent Guidelines for Addressing Pre-Regulatory Landfills and Dumps for details regarding procedures.
- Ensure personnel in the field are qualified to identify contaminated material and landfill waste and comply with OSHA-required health and safety training. Before task activities begin, photograph areas or objects that may be disturbed. If needed, photograph affected areas and objects, restoration efforts, and noteworthy items encountered during task



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activities. Submit these photographs upon completion of the activities, and a review will determine if any need to be included in the report.

- Include background (light grey) topographic contour lines on figures detailing the Site and Site vicinity.
- For any invasive activities, provide a plan to properly manage investigation derived waste (IDW). If sampling results indicate non-hazardous IDW, spread within the waste disposal area. If sampling results indicate hazardous IDW, analyze containerized waste as required by waste hauler and include details of sampling and disposal of drums in the proposal. Remove all drummed waste and associated fencing from site within 90 days after field activities are concluded.
- For any field work, minimize the clearing of vegetative material to enable access to proposed sampling points. Using hand tools for clearing is the preferred method, otherwise an explanation must be provided for use of heavy equipment.
- Submit samples to a North Carolina-certified laboratory and analyze for the following parameters by the most current U.S. EPA Contract Laboratory Program Target Compound List: volatile organic compounds by SW-846 method 8260, 1,4-dioxane by Method 8260SIM, semi-volatile organic compounds by SW-846 method 8270, 14 metals by SW-846 method 6020, mercury by method 7471, ammonia by SM 4500, and nitrate and sulfate by EPA Method 300. Please note that any alternate method should be the U.S. EPA Method having the lowest detection limit and that at least achieves the detections equivalent to the 15A NCAC 2L standards or where these are not available, then federal maximum contaminant limits (MCLs). Soil analysis methods must meet the IHSB Preliminary Soil Remediation Goals Table. Initial samples also need 10 Tentatively Identified Compounds (TICs).
- Note: once all contaminants are determined, laboratory analysis may be reduced to those positively identified contaminants.

Waste Disposal Boundary Delineation

- Advance borings around the perimeter of the waste disposal area as shown on the accompanying figure. If waste is not encountered in the initial boring, offset additional borings in the direction of the estimated waste disposal area until waste is encountered. Likewise, if waste is encountered in the initial boring, offset additional borings in the direction away from the estimated waste disposal area until no waste is encountered.
- Extend borings 10 feet below land surface unless waste is encountered. Waste is generally determined not to be present if it is not encountered within ten feet of ground surface.

Waste Characterization

- Utilizing augers, advance borings in the locations within the waste boundary as indicated on the accompanying figure. Continuously log each boring and characterize the waste. Collect solid media samples from each boring from the following intervals below ground surface [**top of waste, 2.5 foot intervals inside of waste, bottom of waste, soil sample from below waste**] or, using PID instruction, collect samples from the highest readings for analysis and identify the sampled interval(s). Collect one additional solid media sample from the base of waste and one from native soil beneath waste.

Surface Water/Sediment

- Collect both a surface water and sediment sample from locations designated on the attached map.

Groundwater Investigations

- Log each boring in the field. Boring log information will include but is not limited to; top of ground elevation, detailed soil description and lithology at depths, depth of groundwater observed during drilling, notable reaction of drill rig during advancement, depth of competent rock encountered, detailed notes/remarks, and a well construction diagram.
- Determine ground water elevation for each well and collect water level measurements using all available groundwater wells.
- Collect one groundwater sample from each well to submit for laboratory analysis.
- Provide well construction details in a table and include installation date, top of casing elevation, ground surface elevation, total well depth, well screen interval, depth to groundwater, and groundwater elevation.

Permanent groundwater monitoring wells:

- Advance 5 soil borings outside of the waste to groundwater at the locations indicated on the attached map. Install a permanent 2-inch diameter groundwater monitoring well in each boring. Depth to groundwater is estimated between 3 to 15 feet, and the assumption is hollow stem augers will be required to advance the borings. Well installation must comply with the most current 15A NCAC 2C well construction standards. Construct wells with stick up covers.
- Well installation must comply with the most current 15A NCAC 2C well construction standards. Complete wells with stick up covers.
- For NX core, complete a photo assay of the cores using ASTM standards and marking feet.

Landfill Gas Probe Installation and Screening

- Install 13 permanent landfill gas probes located as presented in the attached map to monitor subsurface landfill gas.
- If landfill gas probes cannot be constructed according to minimum requirements in the Guidelines, contact the Unit Project Manager and be prepared to conduct Flux Chamber installation and screening.
- Screen the landfill gas probes for volatile organic compounds (VOCs), methane, oxygen, carbon dioxide, barometric pressure and hydrogen sulfide.
- Screen new landfill gas probes at least 24 hours after installation.
- Compare landfill gas probe screening results with the IHSB Residential Vapor Intrusion Screening levels.
- Do not abandon the gas probes following screening. A review of the field testing results will determine subsequent sample collection.

Surveying

- Complete a survey of the site by a North Carolina Licensed Professional Land Surveyor to include site boundaries (waste disposal area and areas of contamination), topographic contours, property lines within the site boundaries, unique site features, and on-site structures.
- For Plat notice, refer to the instructions for preparing a notice of an Inactive Hazardous Substance or Waste Disposal Site for Recordation
- Upon completion of task activities, submit field notes, photographs, and validated analytical results for review.

Scope of Work for Task Order 602DP-6: Report Compilation

Compilation of the report will be approved as a separate task order. The Report will be titled Remedial Investigation – Media Sampling.

The report is to contain the following items:

- Text, tables, and figures to adequately summarize task activities
- A section concerning any variations from the work plan or your SOPs.



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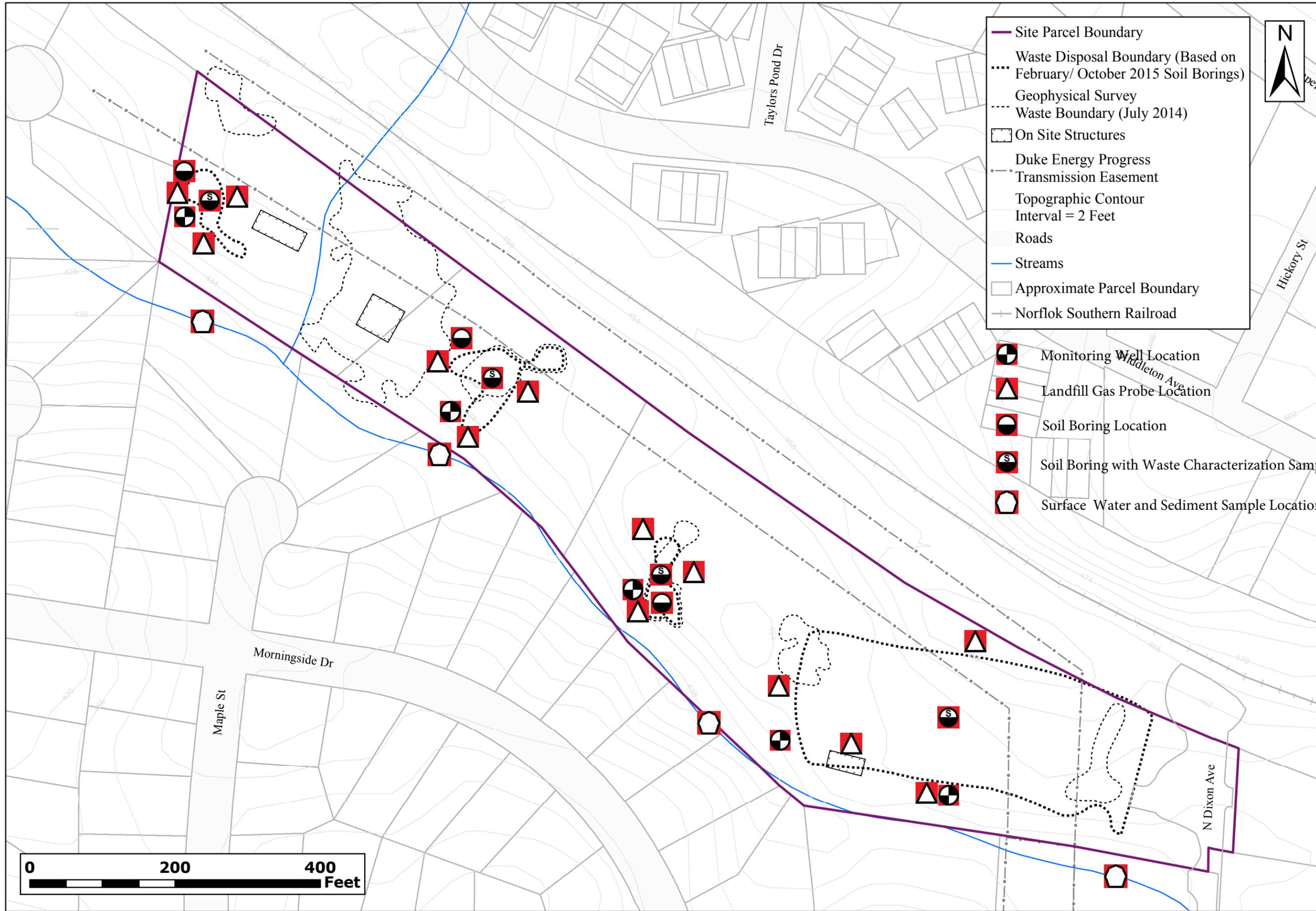
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Provide the work plan and cost estimate by Friday, July 1, 2016. A task authorization to begin work will be issued based on the approved proposal. Do not proceed with tasks prior to receiving this authorization. If you have any questions or concerns, contact me at (919)707-8346.

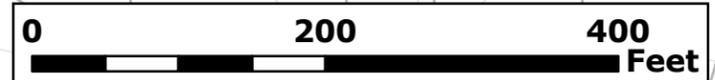
Sincerely,

Jason Kam, Hydrogeologist
Division of Waste Management – NCDEQ



- Site Parcel Boundary
- Waste Disposal Boundary (Based on February/ October 2015 Soil Borings)
- Geophysical Survey
- Waste Boundary (July 2014)
- On Site Structures
- Duke Energy Progress Transmission Easement
- Topographic Contour Interval = 2 Feet
- Roads
- Streams
- Approximate Parcel Boundary
- Norflok Southern Railroad

- ⊗ Monitoring Well Location
- ▲ Landfill Gas Probe Location
- Soil Boring Location
- ⊙ Soil Boring with Waste Characterization Sampling Location
- ⊕ Surface Water and Sediment Sample Location



ATC Associates of North Carolina, P.C. (919) 871-0999
 Raleigh, North Carolina, 27604
 SCALE: 1" = 125'
 DATE: 1/14/2016
 PROJECT NO: PRLU0602A

FIGURE 1 - SITE MAP
CARY DUMP
NONCD0000602
313 NORTH DIXON AVENUE
CARY, WAKE COUNTY, NORTH CAROLINA

TASK ORDER: 602DP-1 & 2
 PREP: RB
 REV: JB

NOTES:
 Features shown are not an authoritative location, nor are they presented to a stated accuracy.

DATA SOURCES:
 Wake County GIS Department

COORDINATE SYSTEM:
 NAD 1983 North Carolina State Plane FIPS 3200,
 US Survey Feet

Path: S:\GIS\Project_Folders\F-Cary Dump\MXD_October_2015\Figure1_Cary_Dump_10_2015_Site_Map.mxd